Chapter 4
Computer-Assisted vs. Classroom Instruction on Developing Reference Tracking Skills in L2 Chinese

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ABSTRACT

Computer-Assisted Language Learning (CALL) has been proven effective in facilitating low-level second language (L2) reading comprehension skills such as decoding and word recognition. However, little is known about whether discourse-level reading skills such as reference tracking skills can also be effectively taught through CALL. This chapter overviews a study that designed and implemented a CALL program for teaching Chinese reference tracking skills (i.e., the identification of zero anaphors and the matching of their antecedents). The effects of the CALL program were compared with that of teacher-directed classroom instruction. Forty-five learners of L2 Chinese were randomly assigned to one of the three groups: a CALL group, a teacher-directed classroom instruction group, and a control group. A pretest, an immediate posttest, and a delayed posttest measuring different aspects of Chinese zero anaphoric inference skills were administered. The results show that, although the Classroom group and the CALL group both made substantial progress compared with the control group, the CALL group made significantly more gain than the classroom instruction group in acquiring zero anaphoric inference skills.

INTRODUCTION

Throughout centuries much emphasis has been put on the development of reading skills in schools. Currently, technological advances are opening new doors and providing new possibilities for applied linguistics and foreign language pedagogy. Research findings support that CALL (Computer Assisted Language Learning) has a positive impact on Second Language (L2) reading achievement, especially on low-level reading skills such as word recognition and decoding (Park, Zheng, Lawrence & Warschauer, 2013). Yet little is known about whether CALL can play a more positive role than
teacher-directed classroom instruction in improving L2 readers’ higher level reading skills, which play a crucial role in learners’ reading comprehension ability.

The present study attempts to fill this gap by investigating the effects of computer-assisted instruction on L2 learners’ development of Chinese reference tracking skills. Reading as a language skill consists of various sub-skills, which include the knowledge of discourse structure and the skills of building coherent mental representation of the text for comprehension (Grabe, 2004). This study focuses on one specific skill of constructing discourse structure, i.e., reference tracking. In some languages such as Chinese, discourse is abundant with zero anaphora, which is the use of an empty grammatical slot to refer to a previously mentioned entity in the discourse (Aoun, 1985). This special linguistic feature poses huge obstacles for learners in understanding the referential relations in Chinese texts, especially for those whose first language (L1) does not have this linguistic feature (i.e., zero anaphora). In response to this difficulty in learning, a CALL program was designed in this study to improve L2 learners’ reference-tracking skills in reading Chinese texts with zero anaphors. The success of the CALL program in enhancing higher-level reading skills such as anaphoric inference skills can provide new insights into the benefit of technology for L2 reading education.

BACKGROUND

Reference-Tracking from a Psycholinguistic Perspective

Anaphora is the use of a type of expression whose reference depends upon another referential element (Aoun, 1985). For example, in the sentence “Harry preferred the company of himself”, “himself” is an anaphoric expression in that it is co-referential with the expression “Harry” in the subject position. Anaphora plays an important role in reference systems, which is crucial for discourse comprehension (Aoun, 1985).

Reference tracking, also called anaphora tracking, is the process of identifying the antecedent to which an anaphor refers. This process has been crucial in investigating questions about the construction of mental representation of discourse and text comprehension in reading (Shake & Stine-Morrow, 2011). Discourse comprehension crucially depends on the ability to coherently connect current information to previously presented information. Anaphoric expressions play an important role in establishing these cohesive links: they help the reader to establish links between the things and actions mentioned back and forth in discourse. The question then becomes how the readers establish such links.

In response to linguistic classifications of reference systems in the world languages, researchers have categorized reference-tracking systems from a psycholinguistic perspective (Huang, 2003, LaPolla, 1990). The first full-scale typology of reference-tracking systems was proposed by Foley and Van Valin (1984), who listed four types of devices: (1) switch function (Comrie 1989; Foley & Van Valin 1984, Van Valin, 1987), (2) switch reference, (3) gender/number/noun class, and (4) inference. Among these four categories, two types are related to the current study: switch function and inference. Switch-function is where a referent is tracked though a discourse by referring to its syntactic function, often the subject. This is the system used (along with gender marking) in, for example, English, French and many other European languages. Under this category, anaphors usually occur in the form of pronouns, sometimes in the form of proper names. The inference type, on the other hand, includes languages such as Chinese and Japanese, in which the tracking of a referent is largely a matter of inference because grammatical or lexical marking is seldom involved. The term “inference” means connecting prior